REPORT ON THE INVESTIGATION OF SUBSURFACE PETROLEUM CONTAMINATION

at

LAKE VIEW STORE

ROUTE 114
AVERILL, VERMONT

(VTDEC Site # 93-1479)

JUNE 1994

Prepared by:

GRIFFIN INTERNATIONAL, INC.
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(802) 865-4288

Griffin Project #: 3944489

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TABLE OF CONTENTS

		PAGE
I.	INTRODUCTION	1
II.	SITE BACKGROUND A. Site Description B. Site History	1
III.	SUBSURFACE INVESTIGATION	2
IV.	WATER LEVELS AND WATER QUALITY A. Water Table Elevations B. Water Quality	3
V.	STOCKPILED SOIL SCREENING	3
VI.	RISK ASSESSMENT	4
VII.	CONCLUSIONS	5
VIII.	RECOMMENDATIONS	6

APPENDICES

APPENDIX A - Maps
- Site Location Map
- Site Map
- Groundwater Contour Map
- Contaminant Concentration Map

APPENDIX B - Well Logs

APPENDIX C - Water Level Data

APPENDIX D - Groundwater Quality Summary/Laboratory Report

I. INTRODUCTION

This report summarizes the investigation of subsurface petroleum contamination at Lake View Store, located on Route 114 in Averill, Vermont (see Site Location Map, Appendix A). Included in the report are the findings from the hollow-stem auger drilling along with the results of groundwater sampling conducted on the property. This work has been conducted for Ms. Priscilla Roy by Griffin International, Inc. (Griffin).

II. SITE BACKGROUND

A. Site Description

The former underground storage tanks (USTs) at the site were located south of the store in the same location as the new tank (identified as "UST Pad" on the enclosed Site Map, Appendix A). The Surficial Geologic Map of Vermont maps the surrounding overburden deposits as till. Actual subsurface materials consist of poorly sorted sand with some gravel, and a silt layer overlying the bedrock.

The immediate area surrounding the site consists of open land, forest and a small residential community. Only three or four residences are located within 500 feet of the site. Three residences located to the west and southwest have drilled supply wells. The Lake View Store and on-site residence obtain water from a spring about one-half mile to the east.

B. Site History

In October of 1993, Griffin inspected the removal of two 2,000-gallon gasoline underground storage tanks (USTs) at the site. Elevated levels of volatile organic compounds (VOCs) were detected in the soils surrounding these tanks, indicating that there was a release of gasoline to the subsurface. Groundwater was encountered at approximately six feet below grade. No sheens were visible on the water table. Approximately 70 cubic yards of contaminated soil were stockpiled on-site. The tanks were replaced with one 4,000-gallon tank with two compartments.

On the day of the tank removals, a small brook flowing from north to south was identified approximately 130 feet to the west of the store. This brook flows into Great Averill Pond located about 1/4-mile to the south. The banks of the brook were screened for VOCs using a photoionization detector (PID); no VOCs were detected.

In addition, the ambient air in the basement of the store was screened along the southern concrete block foundation wall and dirt floor. No elevated concentrations of VOCs were detected here either.

Griffin submitted a tank pull inspection report, dated October 18, 1993, to the Vermont Department of Environmental Conservation (VTDEC).

In response to the petroleum contamination detected in the tank pit at Lake View Store, the VTDEC requested further investigation. Ms. Priscilla Roy contracted Griffin to perform this investigation which included the installation of three monitoring wells (MW-1, MW-2 and MW-3). The results of the investigation are presented in this report.

III. SUBSURFACE INVESTIGATION

On April 20, 1994, three monitoring wells were installed using a hollow-stem auger drill rig. The monitoring wells, designated MW-1, MW-2, and MW-3, were installed to help define the degree and extent of petroleum contamination in the vicinity of the former locations of the tanks. Soil samples were obtained in each boring at five-foot intervals, where possible, using a split-spoon. These soil samples were screened for VOCs using an HNU Model PI-101 PID. The locations of the wells are shown on the Site Map in Appendix A.

In the boring for MW-1, dark brown sand and gravel with little silt was observed from one to two feet below grade. Groundwater was encountered at approximately 1.5 feet below grade. In the first split spoon sample from five to seven feet below grade, gray silt with little fine sand was observed. Bedrock was encountered at seven feet below grade. No petroleum contamination was observed in the soils from this boring.

In the boring for MW-2, poorly sorted sand with some silt and little gravel was observed beneath the pavement to two feet below grade. A strong gasoline odor was noticed in these soils and the water table was estimated to be two feet below grade. A split-spoon sample from 5.0 to 5.5 feet contained fine to coarse sand with some gravel and little silt. A PID reading of 240 parts per million (ppm) was observed in this sample. The split-spoon could not be driven to seven feet below grade due to the presence of bedrock encountered at 5.5 feet.

In the boring for MW-3, grayish brown fine to medium sand with some gravel was observed from one to two feet below grade. A slight petroleum odor was observed in this grab sample. Groundwater was encountered at approximately two feet below grade. In the first split spoon sample from five to seven feet below grade, very tight silt with some gravel and little fine sand was observed. Bedrock was encountered again at seven feet below grade. A slight gasoline odor (PID reading of 17 ppm) was noticed in this sample.

All three monitoring wells were set on top of the bedrock and were constructed with two-inch diameter Schedule 40 PVC riser and 0.010" slotted screen (with the exception of MW-1 which was screened from 0.5 to 7.0 feet below grade). The screened portion of MW-2 is from 2 to 5.5 feet below grade; MW-3 is screened from 2.5 to 7.0 feet. A silica sand pack was placed around the screened portion of each well, and a bentonite seal was placed in the annulus immediately above the sand pack. Each well was completed with a road box set in concrete at grade level. In addition, locking well caps were placed on the

monitoring wells. The boring logs and well construction details for these wells are included in Appendix B.

IV. WATER LEVELS AND WATER QUALITY

A. Water Table Elevations

Water table elevation measurements were collected from the monitoring wells prior to sampling on April 25, 1994. In addition, the entire site was surveyed in azimuth and elevation, including the tops of the monitoring wells. The depth to water was subtracted from the top of casing elevation to obtain the water table elevation in each well. Water level data are relative to the top-of-casing elevation of MW-1 which has been assigned an elevation of 100.0 feet (see Appendix C).

The water table elevations have been plotted and contoured to illustrate the estimated gradient and direction of groundwater flow beneath the site (see Groundwater Contour Map, Appendix A). According to these data, it appears that on-site groundwater flow is to the southeast toward Great Averill Pond at a hydraulic gradient of 6.9%.

B. Water Quality

On April 25, 1994, Griffin collected water samples from the three monitoring wells at the site. Samples were analyzed for petroleum compounds by EPA Method 602. The analytical results have been plotted to show the distribution of dissolved contamination across the site (see Contaminant Concentration Map, Appendix A).

A trace of methyl tert butyl ether (MTBE), a gasoline additive, was detected in the sample from MW-1. Benzene, toluene, ethylbenzene, and xylenes (BTEX) were not detected in this sample. BTEX and MTBE exceeded the Vermont drinking water standards in the sample from MW-2. In the groundwater sample from MW-3, benzene and MTBE were detected at levels exceeding the drinking water standards. A groundwater quality summary for this sampling event is presented in Appendix D.

The trip blank, equipment blank and duplicate sample results indicate that proper quality assurance/quality control was maintained during the sampling and analysis. The laboratory analytical report is also included in Appendix D.

V. STOCKPILED SOIL SCREENING

Approximately 70 cubic yards of contaminated soils were removed from the tank pit area on October 14, 1993, and stockpiled on-site in polyethylene sheeting. On April 20, 1994, Griffin screened the stockpile to determine the extent of residual contamination. A PID was used to determine the relative level of VOCs in the soil. Two soil samples were

obtained from random locations in the pile at one foot below the surface of the pile. The samples had PID readings of 22 ppm and 260 ppm. It was evident that there was no reason to further screen the soils at this point. The stockpile had only been there six months and clearly needed additional time for biodegradation, photochemical reactions and volatilization to reduce the concentrations of petroleum compounds in soils.

VI. RISK ASSESSMENT

From the subsurface investigation conducted by Griffin, it is apparent that the soils and groundwater in the vicinity of the former gasoline USTs at the property have been impacted by a probable leak or spill of gasoline. The following is a list of potential sensitive receptors of the gasoline contamination at this site:

- At least four private bedrock supply wells at surrounding residences (identified as wells #4, #10, #15 and #29 whose approximate locations are shown on the Site Location Map in Appendix A)
- The small brook located approximately 130 feet to the west of the store
- A wetland across Route 114 that the above-mentioned brook flows into
- Great Averill Pond located approximately 1/4-mile to the south, beyond the wetland
- The basement of Lake View Store

The store reportedly obtains its water, as mentioned previously, from a spring located approximately one-half mile east of the site and is likely not at risk from the on-site contamination. However, state records indicate the presence of at least four bedrock wells in the vicinity of the store. Additional bedrock or overburden wells may be in use at other nearby residences. Due to the relative proximity of the water table to the bedrock below, there is the possibility of contamination of the bedrock aquifer. For example, in MW-2, the distance between the water table and the bedrock was only four feet on April 25. During drier periods of the year, the contaminated water table could be low enough to expose the bedrock aquifer to dissolved BTEX and MTBE. The risk to the water supplies in the area is deemed to be low, however, an additional survey of the area should be conducted to determine the exact locations and types of water supplies serving the surrounding homes. On previous visits to the site, the ground was covered with several feet of snow, prohibiting easy identification of the well heads.

During Griffin's site visit in October of 1993, the environs of the small brook were screened with a PID. No elevated levels of VOCs were detected and no sheens were observed. Based on the results of the groundwater sampling and the proximity of the brook to the monitoring wells, there is a significant possibility that low concentrations of BTEX or MTBE could eventually reach the brook.

The risk to the wetland and Great Averill Pond is deemed to be relatively low at this point since no signs of contamination were detected in the small brook which is located closer to the on-site contamination.

Finally, the risk of petroleum vapors entering the basement of the store is likely relatively low. The on-site building was screened for VOCs in October of 1993. No elevated PID readings were measured at that time. In addition, the contaminated groundwater flows away from the store, and MW-1, located upgradient from the former UST locations, contained only a trace of MTBE.

VII. CONCLUSIONS

Based on the investigation at this site to date, Griffin has reached the following conclusions:

1. The soils and the groundwater at Lake View Store have been impacted by a release of gasoline. Hollow stem auger drilling revealed the presence of VOCs in the soils, and subsequent groundwater sampling from the monitoring wells indicated moderate levels of dissolved groundwater contamination at the site.

2. The upgradient extent of dissolved contamination has been determined sufficiently with MW-1 which contained only a trace of MTBE. Since groundwater flows to the southeast, contaminated groundwater will not likely flow beneath the store and the level of contamination in MW-1 is not expected to increase significantly over time.

3. The apparent downgradient extent of contamination has not been determined yet. Groundwater analytical results from the April 1994 sampling indicated that MW-2, the monitoring well most downgradient from the source area, had the highest level of dissolved contamination at the site.

4. The screening of the 70 cubic yards of stockpiled soil, removed from the former tank pit area in October 1993, indicated that high levels of VOCs were still present.

5. Based on the findings of this investigation, it appears that the greatest potential risk posed by the on-site contamination appears to be (1) to the small brook located downgradient from the store and (2) the surrounding private bedrock supply wells. The risk to the bedrock wells is probably low at this time, however, Griffin believes that there is a significant possibility of low levels of dissolved contamination eventually reaching the brook.

VIII. RECOMMENDATIONS

Based on the above conclusions, Griffin makes the following recommendations:

1. The stockpiled soil should remain polyencapsulated on-site. The pile should be screened for VOCs again in the spring of 1995. It is unlikely that the contamination in these soils will be reduced to acceptable levels before this time.

2. Since the downgradient extent of contamination has not been determined yet, Griffin recommends further subsurface investigation at the site. The property across Route 114 directly downgradient of MW-2 and MW-3, appeared to be swampy and therefore may not allow the installation of additional monitoring wells by hollow stem auger drilling.

   Instead, Griffin recommends that two borings be made on this property using a hand auger. These borings should be located directly downgradient and across the street from MW-2 and MW-3. Soil from each boring would be screened for VOCs using a PID and one soil sample would be obtained at the water table in each boring. These two soil samples would then be submitted to a laboratory and analyzed for petroleum compounds by EPA Method 8020. If there is standing water on this property, a water sample will be collected and analyzed also by EPA Method 8020.

   In addition, on the same day that the hand augering is performed, a detailed survey should be done to determine the locations and types of drinking wells in the area. If any of these supplies appear to be at risk from the contamination at Lake View Store, they should be sampled and analyzed for BTEX and MTBE.

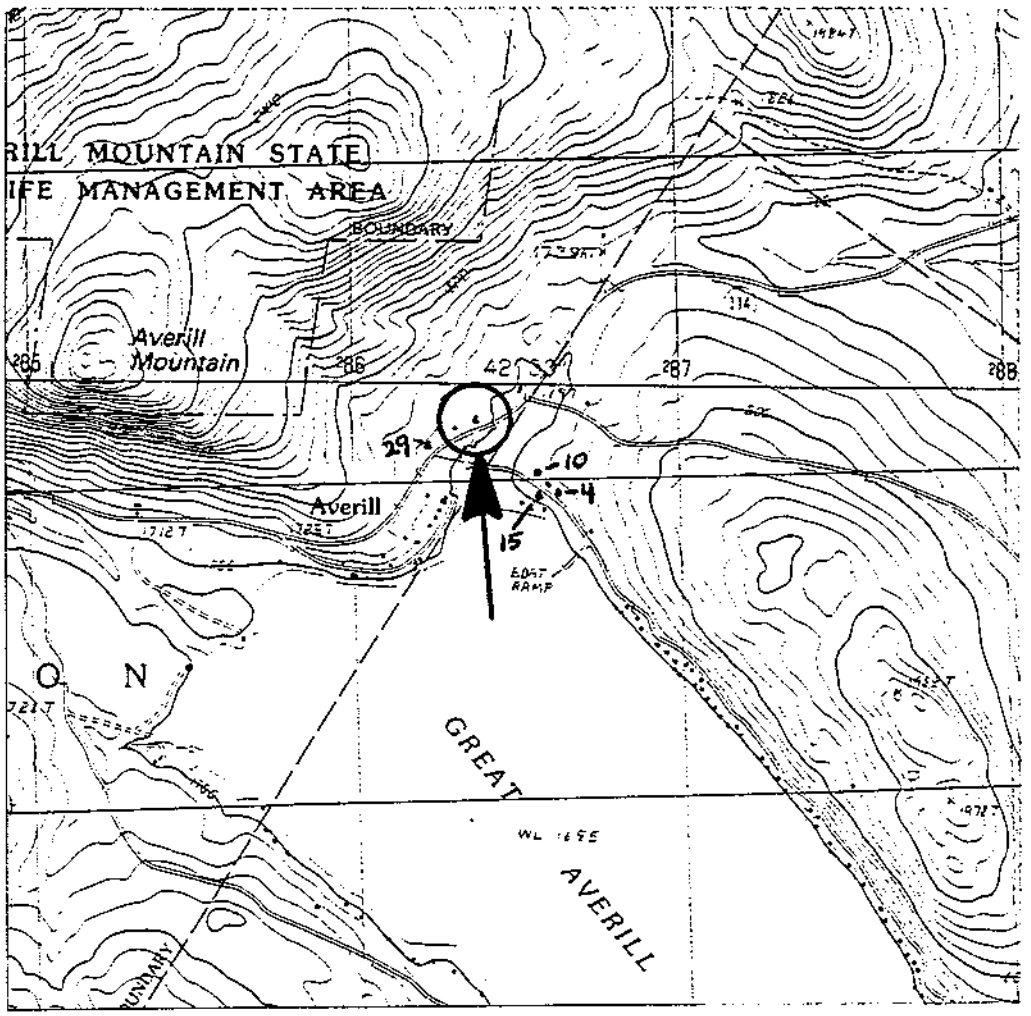
   Finally, the basement of the store and the banks of the nearby brook should be screened again for the presence of VOCs using a PID.

   After this additional investigation, the risk to potential receptors can more accurately be assessed, and the need for a long-term monitoring program, if any, can be determined.

APPENDIX A

Maps

Site Location Map
Site Map
Groundwater Contour Map
Contaminant Concentration Map



• - Private Bedrock Well

JOB #: 3944489
SOURCE: USGS- AVERILL, VERMONT QUADRANGLE

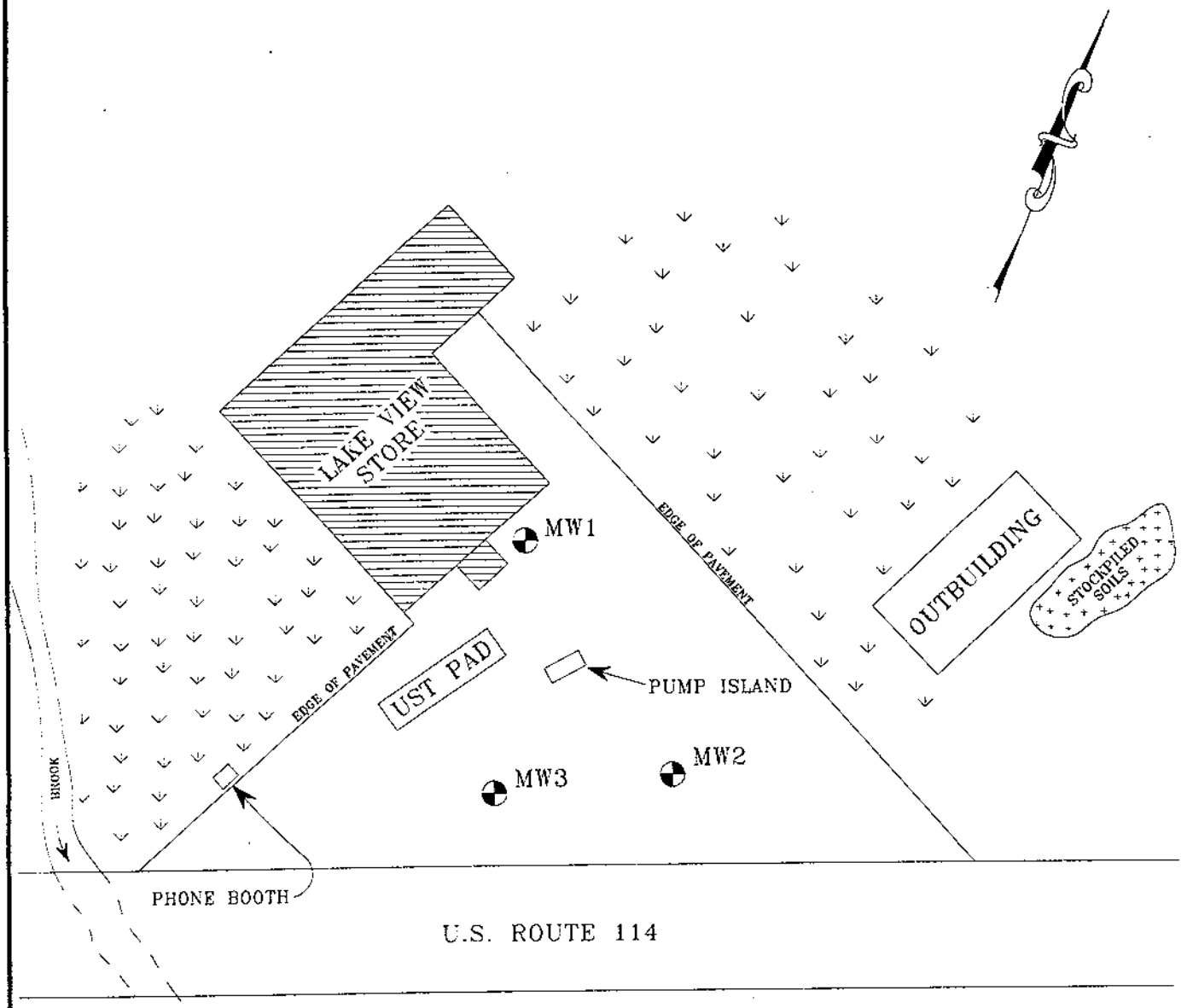
GRIFFIN INTERNATIONAL INC.

LAKE VIEW STORE

AVERILL, VERMONT

SITE LOCATION MAP

DATE: 4/28/94	DWG.#:1	SCALE: 1:24000	DRN: SB	APP: KM



LEGEND

MW2 MONITORING WELL

JOB #: 3944489

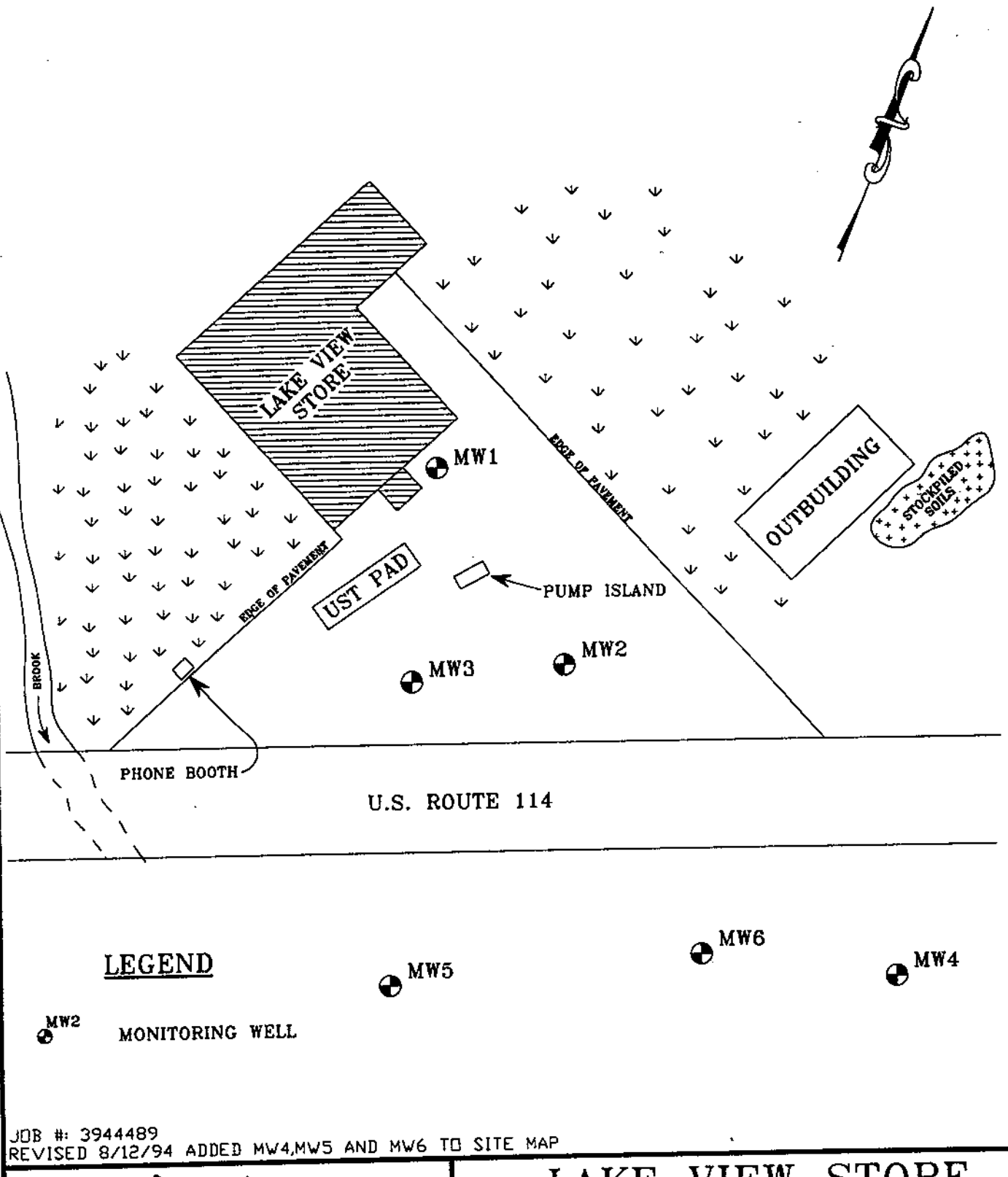
GRIFFIN INTERNATIONAL INC.

LAKE VIEW STORE

AVERILL, VERMONT

SITE MAP

DATE: 4/28/94	DWG.#: 2	SCALE: 1"=30'	DRN.: SB	APP.: KM



LEGEND

MW2 MONITORING WELL

JOB #: 3944489
REVISED 8/12/94 ADDED MW4,MW5 AND MW6 TO SITE MAP

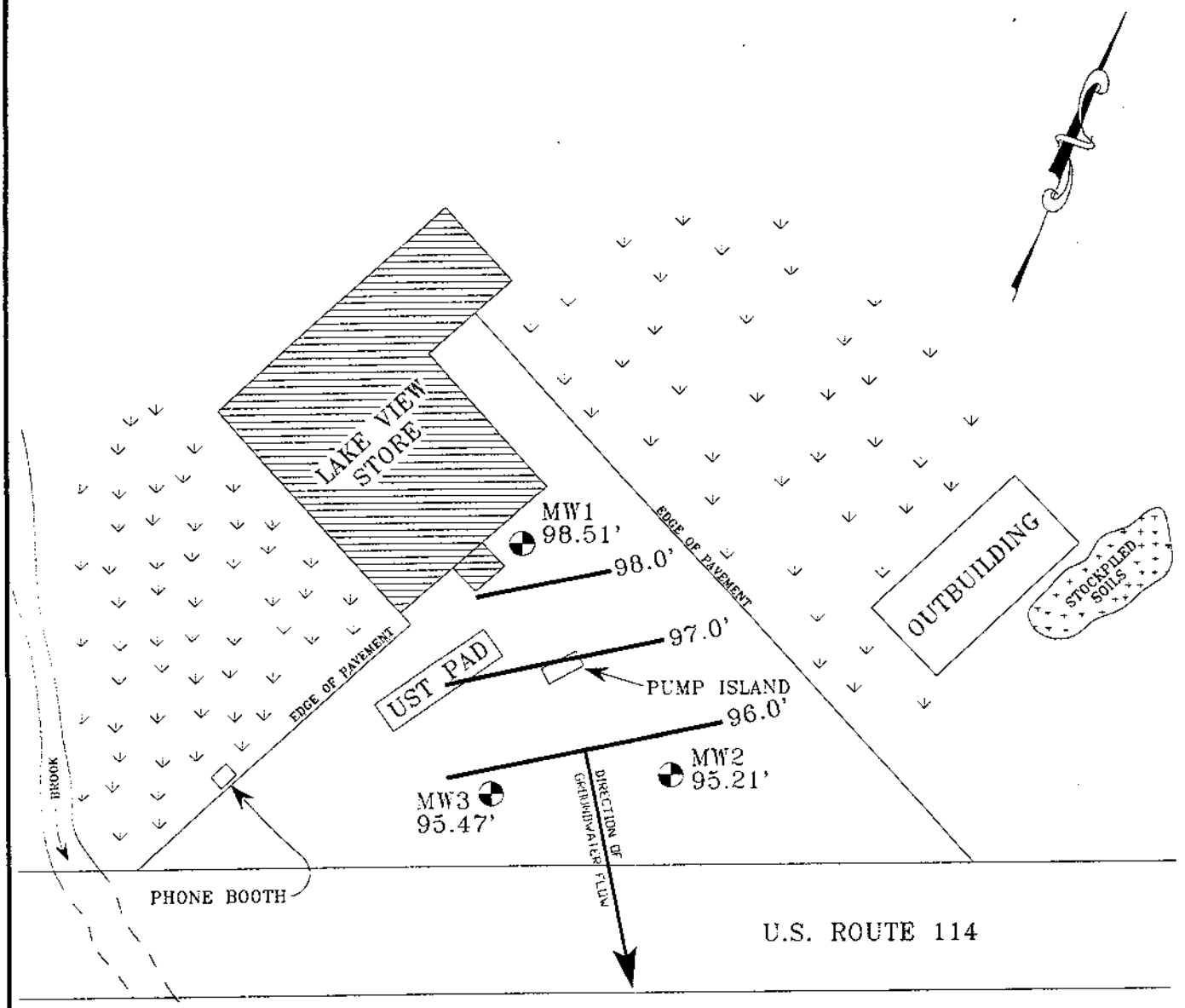
GRIFFIN INTERNATIONAL Inc

LAKE VIEW STORE

AVERILL, VERMONT

SITE MAP

DATE: 7/22/94	DWG.#: 1	SCALE: 1"=30'	DRN.: SB	APP.:KM



LEGEND

MW2 95.21' — MONITORING WELL AND WATER TABLE ELEVATION IN FEET

97.0' —— GROUNDWATER CONTOUR

JOB #: 3944489
MONITORING DATE: 4/25/94

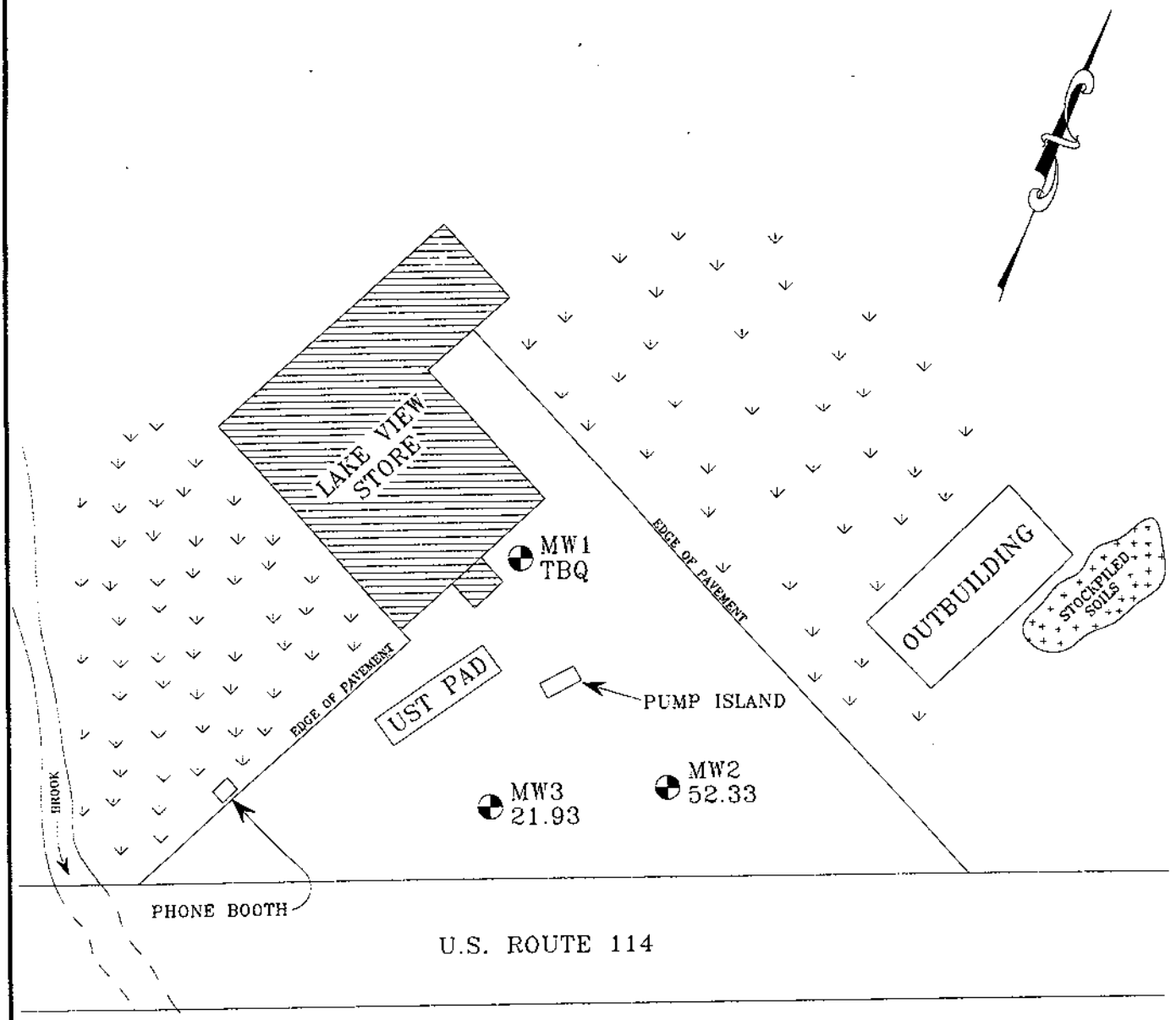
GRIFFIN INTERNATIONAL INC

LAKE VIEW STORE

AVERILL, VERMONT

GROUNDWATER CONTOUR MAP

DATE: 6/21/94	DWG #: 3	SCALE: 1"=30'	DRN: SB	APP: KM



LEGEND

MW2 52.33	MONITORING WELL AND TOTAL BTEX & MTBE CONCENTRATION (PPM)
TBQ	TRACE BELOW QUANTITATION LIMIT

JOB #: 3944489
SAMPLING DATE: 4/25/94

GRIFFIN INTERNATIONAL INC

LAKE VIEW STORE

AVERILL, VERMONT

CONTAMINANT CONCENTRATION MAP

DATE: 6/21/94	DWG.#: 4	SCALE: 1"=30'	DRN.: SB	APP.: KM

APPENDIX B

Well Logs

PROJECT LAKE VIEW STORE

LOCATION AVERILL, VERMONT

DATE DRILLED 4/20/94 TOTAL DEPTH OF HOLE 7'

DIAMETER 4.25"

SCREEN DIA. 2" LENGTH 6.5' SLOT SIZE 0.010"

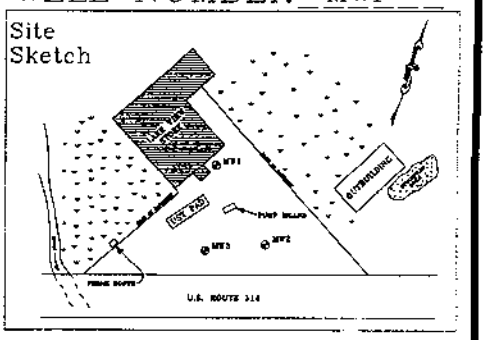
CASING DIA. 2" LENGTH 0' TYPE -

DRILLING CO. T&K DRILLING METHOD HSA

DRILLER A. TOMMILA LOG BY K. McGRAW

WELL NUMBER MW1

Site Sketch



GRIFFIN INTERNATIONAL, INC

DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 6" OF SPOON & PID READINGS	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)	DEPTH IN FEET
0		ROAD BOX LOCKING WELL CAP CONCRETE		Surface: PAVEMENT	0
1		BENTONITE	1'-2' 0 ppm	Dark brown SAND and GRAVEL, little silt, wet, no odor	1
2				1.5' WATER TABLE	2
3		WELL SCREEN			3
4		SAND PACK			4
5					5
6		BOTTOM CAP	5'-7'- 2,4,7,12 0 ppm	Gray SILT, little fine sand, moist no odor	6
7		BEDROCK		BASE OF WELL AT 7' END OF EXPLORATION AT 7' BEDROCK REFUSAL	7
8					8
9					9
10					10
11					11
12					12
13					13
14					14
15					15
16					16
17					17
18					18
19					19
20					20
21					21
22					22
23					23
24					24
25					25

PROJECT LAKE VIEW STORE

LOCATION AVERILL, VERMONT

DATE DRILLED 4/20/94 TOTAL DEPTH OF HOLE 5.5'

DIAMETER 4.25"

SCREEN DIA. 2" LENGTH 3.5' SLOT SIZE 0.010"

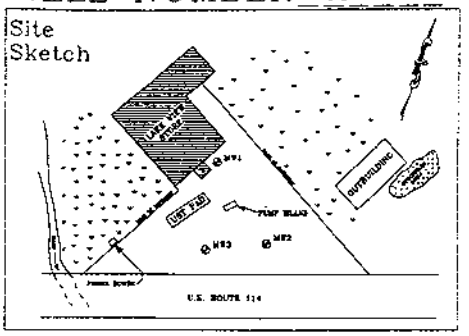
CASING DIA. 2" LENGTH 1.5' TYPE sch. 40 pvc

DRILLING CO. T&K DRILLING METHOD HSA

DRILLER A. TOMMILA LOG BY K. McGRAW

WELL NUMBER MW2

Site Sketch



GRIFFIN INTERNATIONAL, INC

DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 6" OF SPOON & PID READINGS	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)	DEPTH IN FEET
0		ROAD BOX LOCKING WELL CAP CONCRETE		Surface: PAVEMENT	0
1		NATIVE BACKFILL	0'–2' 200 ppm	Dark brown fine to coarse SAND (poorly sorted), little gravel, some silt, wet, strong gasoline odor.	1
2		BENTONITE		2.0' WATER TABLE ▼	2
3		WELL RISER			3
4		SAND PACK WELL SCREEN			4
5		BOTTOM CAP	5'–5.5'– 7.50/1" 240 ppm	Olive brown fine to coarse SAND, some gravel, little silt, saturated, strong odor.	5
6		UNDISTURBED BEDROCK			6
7					7
8					8
9					9
10					10
11					11
12				BASE OF WELL AT 5.5' END OF EXPLORATION AT 5.5' BEDROCK REFUSAL	12
13					13
14					14
15					15
16					16
17					17
18					18
19					19
20					20
21					21
22					22
23					23
24					24
25					25

PROJECT LAKE VIEW STORE

LOCATION AVERILL, VERMONT

DATE DRILLED 4/20/94 TOTAL DEPTH OF HOLE 7'

DIAMETER 4.25"

SCREEN DIA. 2" LENGTH 4.5' SLOT SIZE 0.010"

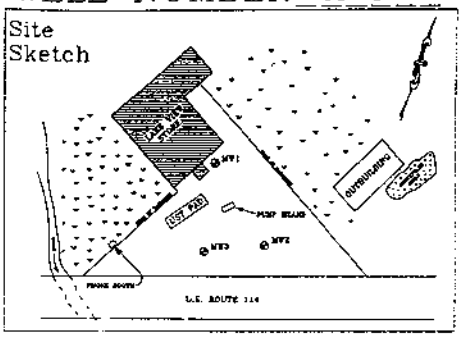
CASING DIA. 2" LENGTH 2.0' TYPE sch. 40 pvc

DRILLING CO. T&K DRILLING METHOD HSA

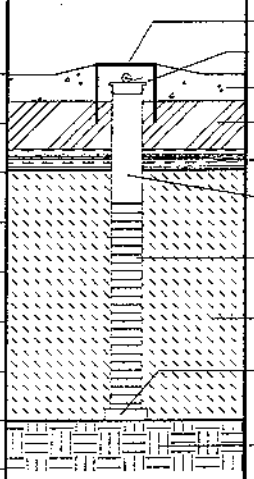
DRILLER A. TOMMILA LOG BY K. McGRAW

WELL NUMBER MW3

Site Sketch



GRIFFIN INTERNATIONAL, INC

DEPTH IN FEET	WELL CONSTRUCTION	NOTES	BLOWS PER 6" OF SPOON & PID READINGS	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)	DEPTH IN FEET
0		ROAD BOX LOCKING WELL CAP CONCRETE		Surface: PAVEMENT	0
1		NATIVE BACKFILL	0'-2' 2 ppm	Grayish brown fine to medium SAND, some gravel, moist, slight odor	1
2		BENTONITE		2.0' WATER TABLE	2
3		WELL CASING			3
4		WELL SCREEN			4
5		SAND PACK			5
6		BOTTOM CAP	5'-7'- 10,32,8,15 17 ppm	Olive brown SILT, some gravel (max. size 1/2") little fine sand, very tight, damp, slight odor.	6
7		BEDROCK		BASE OF WELL AT 7' END OF EXPLORATION AT 7' BEDROCK REFUSAL	7
8					8
9					9
10					10
11					11
12					12
13					13
14					14
15					15
16					16
17					17
18					18
19					19
20					20
21					21
22					22
23					23
24					24
25					25

APPENDIX C

Water Level Data

Liquid Level Monitoring Data
Lake View Store, Averill, Vermont

4/25/94

Well I.D.	Well Depth	Top of Casing Elevation	Depth To Product	Depth To Water	Product Thickness	Specific Gravity Of Product	Water Equivalent	Corrected Depth To Water	Corrected Water Table Elevation
MW-1	7.0	100.00		1.49					98.51
MW-2	5.5	96.81		1.60					95.21
MW-3	7.0	97.43		1.96					95.47

All Values Reported in Feet
Top-of-Casing Elevations Measured in Feet Relative to MW-1 set at 100.00 feet

APPENDIX D

Groundwater Quality Summary

Laboratory Report

Groundwater Quality Summary
Lake View Store
Averill, Vermont

4/25/94

PARAMETER	Sample Location MW-1	MW-2	MW-3	Vermont Drinking Water Standards
Benzene	ND	12,900.	3,490.	5.0*
Chlorobenzene	ND	ND	ND	100*
1,2-DCB	ND	ND	ND	600*
1,3-DCB	ND	ND	ND	600**
1,4-DCB	ND	ND	ND	75*
Ethylbenzene	ND	2,420.	ND	700*
Toluene	ND	20,500.	840.	1,000*
Xylenes	ND	11,400.	ND	10,000*
Total BTEX	ND	47,220.	4,330.	-
MTBE	TBQ	5,110.	17,600.	40**
BTEX+MTBE	TBQ	52,330.	21,930.	-

Quality Assurance/Quality Control Samples

PARAMETER	4/25/94 Trip Blank	Equipment Blank	Duplicate of MW-2
Benzene	ND	ND	12,600.
Chlorobenzene	ND	ND	ND
1,2-DCB	ND	ND	ND
1,3-DCB	ND	ND	ND
1,4-DCB	ND	ND	ND
Ethylbenzene	ND	ND	2,460.
Toluene	ND	ND	20,600.
Xylenes	ND	ND	11,600.
Total BTEX	ND	ND	47,260.
MTBE	ND	ND	5,250.
BTEX+MTBE	ND	ND	52,510.

All Values Reported in ug/L (ppb)
* - Maximum Contaminant Level (MCL)
** - Vermont Health Advisory Level

ND - None Detected
TBQ - Trace Below Quantitation Limit

ENDYNE, INC.

Laboratory Services

32 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

REPORT OF LABORATORY ANALYSIS

CLIENT: Griffin International
PROJECT NAME: LakeView Store
REPORT DATE: May 6, 1994
DATE SAMPLED: April 25, 1994

PROJECT CODE: GILV1371
REF.#: 58,661 - 58,666

Enclosed please find the results of the analyses performed for the samples referenced on the attached chain of custody. Chain of custody indicated samples were preserved with HCl.

All samples were prepared and analyzed by requirements outlined in the referenced method and within the specified holding times. All instrumentation was calibrated with the appropriate frequency and verified by the requirements outlined in the referenced method. Blank contamination was not observed at levels affecting the analytical results.

Analytical method precision and accuracy was monitored by laboratory control standards which included matrix spike, duplicate and quality control analyses. These standards were determined to be within established laboratory method acceptance limits.

Individual sample performance was monitored by the addition of surrogate analytes to each sample. All surrogate recovery data was determined to be within laboratory QA/QC guidelines unless otherwise noted.

Reviewed by,

Harry B. Locker, Ph.D.
Laboratory Director

RECEIVED MAY 13 1994

enclosures

ENDYNE, INC.

Laboratory Services

32 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

LABORATORY REPORT

EPA METHOD 602--PURGEABLE AROMATICS

CLIENT: Griffin International
PROJECT NAME: LakeView Store
REPORT DATE: May 6, 1994
DATE SAMPLED: April 25, 1994
DATE RECEIVED: April 25, 1994
ANALYSIS DATE: May 4, 1994

PROJECT CODE: GILV1371
REF.#: 58,661
STATION: Trip Blank
TIME SAMPLED: 8:00
SAMPLER: K. McGraw

Parameter	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	ND[1]
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	10	ND

Bromobenzene Surrogate Recovery: 92%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:

1 None detected

ENDYNE, INC.

Laboratory Services

32 James Brown Drive
Williston, Vermont 05495
(802) 879-4333
FAX 879-7103

LABORATORY REPORT

EPA METHOD 602--PURGEABLE AROMATICS

CLIENT: Griffin International
PROJECT NAME: LakeView Store
REPORT DATE: May 6, 1994
DATE SAMPLED: April 25, 1994
DATE RECEIVED: April 25, 1994
ANALYSIS DATE: May 5, 1994

PROJECT CODE: GILV1371
REF.#: 58,662
STATION: MW-1
TIME SAMPLED: 11:40
SAMPLER: K. McGraw

Parameter	Detection Limit (ug/L)[1]	Concentration (ug/L)
Benzene	5	ND[2]
Chlorobenzene	5	ND
1,2-Dichlorobenzene	5	ND
1,3-Dichlorobenzene	5	ND
1,4-Dichlorobenzene	5	ND
Ethylbenzene	5	ND
Toluene	5	ND
Xylenes	5	ND
MTBE	50	TBQ[3]

Bromobenzene Surrogate Recovery: 108%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 2

NOTES:

1 Detection limit raised due to high levels of contaminants. Sample run at 20% dilution.

2 None detected

3 Trace below quantitation limit

ENDYNE, INC.

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LABORATORY REPORT

EPA METHOD 602--PURGEABLE AROMATICS

CLIENT: Griffin International
PROJECT NAME: LakeView Store
REPORT DATE: May 6, 1994
DATE SAMPLED: April 25, 1994
DATE RECEIVED: April 25, 1994
ANALYSIS DATE: May 5, 1994

PROJECT CODE: GILV1371
REF.#: 58,663
STATION: MW-2
TIME SAMPLED: 12:15
SAMPLER: K. McGraw

Parameter	Detection Limit (ug/L)[1]	Concentration (ug/L)
Benzene	100	12,900.
Chlorobenzene	100	ND[2]
1,2-Dichlorobenzene	100	ND
1,3-Dichlorobenzene	100	ND
1,4-Dichlorobenzene	100	ND
Ethylbenzene	100	2,420.
Toluene	100	20,500.
Xylenes	100	11,400.
MTBE	1000	5,110.

Bromobenzene Surrogate Recovery: 91%

NUMBER OF UNIDENTIFIED PEAKS FOUND: >10

NOTES:

1 Detection limit raised due to high levels of contaminants. Sample run at 1% dilution.

2 None detected

ENDYNE, INC.

Laboratory Services

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FAX 879-7103

LABORATORY REPORT

EPA METHOD 602--PURGEABLE AROMATICS

CLIENT: Griffin International
PROJECT NAME: LakeView Store
REPORT DATE: May 6, 1994
DATE SAMPLED: April 25, 1994
DATE RECEIVED: April 25, 1994
ANALYSIS DATE: May 5, 1994

PROJECT CODE: GILV1371
REF.#: 58,664
STATION: MW-3
TIME SAMPLED: 11:55
SAMPLER: K. McGraw

Parameter	Detection Limit (ug/L)[1]	Concentration (ug/L)
Benzene	200	3,490.
Chlorobenzene	200	ND[2]
1,2-Dichlorobenzene	200	ND
1,3-Dichlorobenzene	200	ND
1,4-Dichlorobenzene	200	ND
Ethylbenzene	200	ND
Toluene	200	840.
Xylenes	200	ND
MTBE	2000	17,600.

Bromobenzene Surrogate Recovery: 90%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 3

NOTES:

1 Detection limit raised due to high levels of contaminants. Sample run at 0.5% dilution.

2 None detected

ENDYNE, INC.

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Williston, Vermont 05495
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FAX 879-7103

LABORATORY REPORT

EPA METHOD 602--PURGEABLE AROMATICS

CLIENT: Griffin International
PROJECT NAME: LakeView Store
REPORT DATE: May 6, 1994
DATE SAMPLED: April 25, 1994
DATE RECEIVED: April 25, 1994
ANALYSIS DATE: May 5, 1994

PROJECT CODE: GILV1371
REF.#: 58,665
STATION: Duplicate
TIME SAMPLED: 12:15
SAMPLER: K. McGraw

Parameter	Detection Limit (ug/L)[1]	Concentration (ug/L)
Benzene	100	12,600.
Chlorobenzene	100	ND[2]
1,2-Dichlorobenzene	100	ND
1,3-Dichlorobenzene	100	ND
1,4-Dichlorobenzene	100	ND
Ethylbenzene	100	2,460.
Toluene	100	20,600.
Xylenes	100	11,600.
MTBE	1000	5,250.

Bromobenzene Surrogate Recovery: 92%

NUMBER OF UNIDENTIFIED PEAKS FOUND: >10

NOTES:

1 Detection limit raised due to high levels of contaminants. Sample run at 1% dilution.

2 None detected

ENDYNE, INC.

Laboratory Services

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Williston, Vermont 05495
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FAX 879-7103

LABORATORY REPORT

EPA METHOD 602--PURGEABLE AROMATICS

CLIENT: Griffin International
PROJECT NAME: LakeView Store
REPORT DATE: May 6, 1994
DATE SAMPLED: April 25, 1994
DATE RECEIVED: April 25, 1994
ANALYSIS DATE: May 4, 1994

PROJECT CODE: GILV1371
REF.#: 58,666
STATION: Equipment Blank
TIME SAMPLED: 12:25
SAMPLER: K. McGraw

Parameter	Detection Limit (ug/L)	Concentration (ug/L)
Benzene	1	ND[1]
Chlorobenzene	1	ND
1,2-Dichlorobenzene	1	ND
1,3-Dichlorobenzene	1	ND
1,4-Dichlorobenzene	1	ND
Ethylbenzene	1	ND
Toluene	1	ND
Xylenes	1	ND
MTBE	10	ND

Bromobenzene Surrogate Recovery: 98%

NUMBER OF UNIDENTIFIED PEAKS FOUND: 0

NOTES:
1 None detected

ENDYNE, INC.

32 James Brown Drive
Williston, Vermont 05495
(802) 879-4333

10243

CHAIN-OF-CUSTODY RECORD

Job# 3944489

Project Name: Lake View Store Site Location: Averill, VT	Reporting Address: Griffin International, P.O. Box 943 Williston, VT 05495	Billing Address: same
Endyne Project Number: GLV1371	Company: Griffin Contact Name/Phone #: K. McGraw/865-4288	Sampler Name: K. McGraw Phone #: 865-4288

Lab #	Sample Location	Matrix	GRAB	COMP	Date/Time	Sample Containers No.	Sample Containers Type/Size	Field Results/Remarks	Analysis Required	Sample Preservation	Rush
5' 1661	Trip Blank	H_2O	✓		8:00	2	40mL		602	HCl	
2' 1662	MW-1	↓	✓		11:40	↓	↓		↓	↓	
3' 1663	MW-2		✓		12:15						
4' 1664	MW-3		✓		11:55						
5' 1665	Duplicate		✓		12:15						
6' 1666	Equipment Blank	↓	✓		12:25	↓	↓		↓	↓	

Relinquished by: Signature Kevin McGraw	Received by: Signature M Chambers	Date/Time 4/25/94 3:50
Relinquished by: Signature	Received by: Signature	Date/Time

Requested Analyses

1	pH	6	TKN	11	Total Solids	16	Metals (Specify)	21	EPA 624	26	EPA 8270 B/N or Acid
2	Chloride	7	Total P	12	TSS	17	Coliform (Specify)	22	EPA 625 B/N or A	27	EPA 8010/8020
3	Ammonia N	8	Total Diss. P	13	TDS	18	COD	23	EPA 418.1	28	EPA 8080 Pest/PCB
4	Nitrite N	9	BOD_5	14	Turbidity	19	BTEX	24	EPA 608 Pest/PCB		
5	Nitrate N	10	Alkalinity	15	Conductivity	(20)	EPA 601 (602)	25	EPA 8240		
29	TCLP (Specify: volatiles, semi-volatiles, metals, pesticides, herbicides)										
30	Other (Specify):										